

SEQUENCE LISTING



<110> Cahoon, Rebecca E.
Fang, Yiwen
Odell, Joan
Weng, Zude

<120> Plant Myb Transcription Factor Homologs

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<140> US 10/659,869

<141> 2003-09-11

<150> US 10/021,811

<151> 2001-12-14

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ccccttcggg gnctnacaac cagaaanccc cnccggcggg gaatggtaat cacaacanaa 660
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          20           25           30

Val Ser Tyr Ile Ser Gln His Gly Glu Gly Ser Trp Asp Asn Leu Ala
          35           40           45

Arg Ala Ala Gly Leu Asn Arg Asn Gly Lys Ser Cys Arg Leu Arg Trp
          50           55           60

Leu Asn Tyr Leu Arg Pro Gly Val Arg Arg Gly Ser Ile Thr Ala Gly
          65           70           75           80

Glu Asp Thr Val Ile Arg Glu Leu His Ala Arg Trp Gly Asn Lys Trp
          85           90           95

Ser Lys Ile Ser Lys His Leu Pro Gly Arg Thr Asp Asn Glu Xaa Lys
          100          105          110

Asn Tyr Trp Arg Thr Arg Ile Gln Gln Glu Glu Gln Gln Gly Ala Lys
          115          120          125

Thr Thr Gln Gln Arg Asp Arg Xaa Arg Pro Pro Thr Pro Gly Pro Gly
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 cggctcccag ccgatacaag gtaggagtga gcagcgtagg tttcatcata tcgcataggc 240
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 Trp Asp Phe Ile Ala Lys Val Ser Gly Leu Asn Arg Thr Gly Lys Ser
 35 40 45
 Cys Arg Leu Arg Trp Val Asn Tyr Leu His Pro Gly Leu Lys Arg Gly
 50 55 60
 Arg Met Ser Pro His Glu Glu Arg Leu Ile Leu Glu Leu His Ala Arg
 65 70 75 80
 Trp Gly Asn Arg Trp Ser Arg Ile Ala Arg Arg Leu Pro Gly Arg Thr
 85 90 95
 Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr His Met Arg Lys Lys Ala
 100 105 110
 Gln Glu Arg Lys Arg Asn Met Ser Pro Ser Ser Ser Ser Ser Leu
 115 120 125
 Ser Tyr Gln Ser Gly Tyr Pro Asp Thr Pro Ser Ile Ile Gly Val Lys
 130 135 140
 Gly Gln Glu Leu His Gly Gly Ser Gly Cys Ile Thr Ser Ile Leu Lys
 145 150 155 160

Gly	Thr	His	Pro	Asp	Met	Asp	Gly	Tyr	Pro	Met	Asp	Gln	Ile	Trp	Met
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Glu Leu Lys

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 ctgccgcctg cggtggctca actacctgcg gccggacctg cggcggggca acatcacggc 360
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 caccagcan ctcaatgcaa ctcaaagcan cgctcaagga ctcagcgcta atctggatgc 540
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			20					25					30		
Met	Leu	Leu	Val	Asn	Tyr	Val	Ala	Ala	His	Gly	Glu	Gly	Arg	Trp	Asn
		35					40					45			
Ala	Leu	Ala	Arg	Cys	Ala	Gly	Leu	Arg	Arg	Thr	Gly	Lys	Ser	Cys	Arg
	50					55					60				
Leu	Arg	Trp	Leu	Asn	Tyr	Leu	Arg	Pro	Asp	Leu	Arg	Arg	Gly	Asn	Ile
65					70					75					80
Thr	Ala	Gln	Glu	Gln	Leu	Leu	Ile	Leu	Glu	Leu	His	Ser	Arg	Trp	Gly
				85					90					95	
Asn	Arg	Trp	Ser	Xaa	Ile	Ala	Gln	His	Leu	Gln	Gly	Gln	Arg	Gln	Arg
			100					105					110		
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35 40 45
Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn Phe Ser Ala Asp Glu
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Gln Leu Leu Ile Ser Thr Ser His
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 His His Ser His Gln Leu Lys Gly Gly Ala Gln Glu Glu Ala Glu Asn
 35 40 45
 Asp Asn Asn Lys Pro Glu Leu Arg Arg Gly Pro Trp Thr Val Asp Glu
 50 55 60
 Asp Leu Thr Leu Val Asn Tyr Ile Ala Asp Asn Gly Glu Gly Arg Trp
 65 70 75 80
 Asn Asn Leu Ala Arg Ala Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys
 85 90 95
 Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Lys Arg Gly Asn
 100 105 110
 Phe Ser Ala Asp Glu Gln Leu Leu Ile Leu Asp Leu His Thr Arg Trp
 115 120 125
 Gly Asn Arg Trp Ser Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp
 130 135 140
 Asn Glu Ile Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys
 145 150 155 160
 Gln Leu Asn Cys Asp Ala Asn Ser Lys Arg Phe Lys Asp Ala Met Arg
 165 170 175
 Tyr Leu Trp Met Pro His Leu Ala Asp Asp Val Asp Thr Ile Ala Ala
 180 185 190
 Ala Asn Asp Asp Asp Glu Asp His His His Asn Leu Arg Leu Leu Val
 195 200 205
 Leu His His His Gln Ala Gln His Leu Gln Gln Ala Ala Ala Ala Ala
 210 215 220
 Gly Gly Ala Ala Asn Asp Leu Ala Ala Gly Ala Tyr Asp Val Arg Gln
 225 230 235 240
 Leu His Ala Leu Pro Ser Ser Gly Met Ala Ala Thr Ser Ser Ser Asp
 245 250 255
 Ser Leu Ala Ser Glu Ser Tyr Asp Asp Gly Gly Leu Leu Phe Ala Asn
 260 265 270
 Leu Arg Ala Gly Glu Met Leu Met Asp Gly Gly Asp Trp Ala Ala Gln

275 280 285

Gln Glu Ala Asp Gln Gly Leu Trp Pro Pro Pro Pro Pro Pro Ser
290 295 300

Asp Leu Asp Gln Ser Val Val Gln Ala Ala Gly Ala Gly Ala Gly Gln
305 310 315 320

Phe Gln Asp Met Glu Leu Ser Gly Trp Val Gln Gly Phe Ser Glu Ser
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Ile Thr Asp Asn Phe Trp Ala Leu Glu Glu Ile Trp Lys Met Gln
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<213> Oryza sativa

<400> 11

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Ser	Cys	Arg	Leu	Arg	Trp	Val	Asn	Tyr	Leu	His	Pro	Gly	Leu	Lys	Arg
			20				25						30		
Gly	Arg	Met	Ser	Pro	Glu	Glu	Glu	Arg	Met	Val	Val	Gln	Leu	His	Ala
		35					40					45			
Lys	Leu	Gly	Asn	Arg	Trp	Ser	Arg	Ile	Ala	Lys	Ser	Ile	Pro	Gly	Arg
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Thr	Asp	Asn	Glu	Ile	Lys	Asn									
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aggaggagga	ggaataatga	gaaagggccc	gtggacggag	caggaggacg	tgagttgggt	180
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Phe Val Arg Leu Leu Gly Glu Arg Arg Trp Asp Phe Leu Ala Lys Val
      20                      25                      30

Ser Gly Leu Gln Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp Val Asn
      35                      40                      45

Tyr Leu His Pro Gly Leu Lys Arg Gly Arg Met Ser Pro Glu Glu Glu
      50                      55                      60

Arg Met Val Val Gln Leu His Ala Lys Leu Gly Asn Arg Trp Ser Arg
      65                      70                      75                      80

Ile Ala Lys Ser Ile Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
      85                      90                      95

Trp Arg Thr His Leu Arg Lys Leu Lys Leu Lys Gln Gln Lys Gln Gln
      100                     105                     110

Gln Ser Asp Asp His His Asn Asp Asn Asp Asp Asp Asp Asp Arg Asn
      115                     120                     125

Ser Ser Ser Ser Ser Ser Ser Ser Asn Ser Asn Ser Asn Leu Gln Gln
      130                     135                     140

Gln Pro Gln Pro Glu Asp Glu Ser Ser Ala Ser Gly Ser Leu Gln Ala
      145                     150                     155                     160

Gln His His Glu Asp Gln His Gln Leu Phe Leu His Pro Leu Trp Asn
      165                     170                     175

Asp Asp Ile Ile Val Asp Val Asp Cys Trp Ser Ser Ser Thr Asn Val
      180                     185                     190

Val Ala Pro Pro Pro Met Pro Ala Ser Pro Leu Trp Asp Ile Asp Asp
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 acatcccaag cccaatatg gtgacagtga gagaggagat gcgcaaggga ccatggacag 180
 agcaggagga cctgcaactg gtatgcactg tccgcctgtt cggtgaccgc cgttgggatt 240
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<210> 16
 <211> 62
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 <213> Oryza sativa

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 20 25 30
 Trp Asp Phe Val Ala Lys Val Ser Gly Leu Arg Gly Leu Asn Arg Thr
 35 40 45
 Gly Lys Ser Cys Arg Leu Arg Trp Val Asn Xaa Leu Gln Pro
 50 55 60

<210> 17
 <211> 587
 <212> DNA
 <213> Oryza sativa

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<222> (587)

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cgtcaactac atcgccgccc atggcgaggg ccgctggaac gcgctcgcg cgtgcgccgg 180
gctgaagcgg acggggaaga gctgccggct gcggtggctg aactacctga ggccggacgt 240
gaggaggggg aacatgacgg cggaggagca gctgctgata ctggagctcc atgggcggtg 300
ggggaatcgg tggagcaaga tcgcgagca tctccccggc cgcaccgaca acgagatcaa 360
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gctcctccca atccaatcca cgacccgacg acccgactct cgtctccgcc gcacactgat 540
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<210> 18

<211> 145

<212> PRT

<213> *Oryza sativa*

<400> 18

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      20              25              30

Val Asn Tyr Ile Ala Ala His Gly Glu Gly Arg Trp Asn Ala Leu Ala
      35              40              45

Arg Cys Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp
      50              55              60

Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Met Thr Ala Glu
      65              70              75              80

Glu Gln Leu Leu Ile Leu Glu Leu His Gly Arg Trp Gly Asn Arg Trp
      85              90              95

Ser Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys
      100              105              110

Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys His Leu Asn Cys
      115              120              125

Asp Val Asn Ser Gln Gln Phe Lys Asp Leu Met Arg Tyr Leu Trp Met
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Pro

145

<210> 19

<211> 440

<212> DNA

<213> *Oryza sativa*

<400> 19

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gagatcaaga actactggag gaccagagtg caaaagcatg ccaagcaact caattgtgat 240
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 atggtgacta gctcatcctc 440

<210> 20
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 <212> PRT
 <213> Oryza sativa

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 20 25 30
 Gln Leu Leu Ile Leu Asp Leu His Ser Arg Trp Gly Asn Arg Trp Ser
 35 40 45
 Lys Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asp Glu Ile Lys Asn
 50 55 60
 Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys Gln Leu Asn Cys Asp
 65 70 75 80
 Val Asn Ser Lys Arg Phe Lys Asp Ala Met Lys Tyr Leu Trp Met Pro
 85 90 95
 Arg Leu Ala Glu Arg Ile His Ala Arg Ala Gly Ala Val Asp Asp Ser
 100 105 110
 Gly Asp Tyr Ser Asn Asn Asp Leu Ser Cys Val Ser Gly Val Thr Met
 115 120 125
 Ala Thr Val Ala Asn Cys Phe Asp Gly Ser Pro Ser Met Val Thr Ser
 130 135 140
 Ser Ser
 145

<210> 21
 <211> 640
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 <213> Oryza sativa

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<220>
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 tctatccgat caatcgactg gcccgcgagg atcgatcgag actcgaaagg gagggatttt 180
 gatccggatc ggtcgacgat ggacatggcg caccgagagg acgcgagcag cgaggaggag 240
 gtgatgggcg gcgacctgcg tcgcgggccg tggacggtgg aggaggacct cctgctcgtc 300
 aactacatcg ccgcgcacgg cgagggccgc tggaaactcg tcgccccgatc agcanggctg 360
 aaacgcacag gcaagagctg ccggctccgg tggctgaact acctccgccc cgacctccgg 420
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 aaccgctggt ccaagatngc gcagcacctc ccgggaagca ccgacaacga gatnaagaat 540
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 <213> Oryza sativa

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<220>
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Gly	Gly	Asp	Leu	Arg	Arg	Gly	Pro	Trp	Thr	Val	Glu	Glu	Asp	Leu	Leu
			20					25					30		

Leu	Val	Asn	Tyr	Ile	Ala	Ala	His	Gly	Glu	Gly	Arg	Trp	Asn	Ser	Leu
		35					40					45			

Ala	Arg	Ser	Ala	Xaa	Leu	Lys	Arg	Thr	Gly	Lys	Ser	Cys	Arg	Leu	Arg
	50					55					60				

Trp	Leu	Asn	Tyr	Leu	Arg	Pro	Asp	Leu	Arg	Arg	Gly	Asn	Ile	Thr	Pro
65					70					75					80

Gln	Glu	Gln	Leu	Leu	Ile	Leu	Glu	Leu	His	Ser	Arg	Trp	Gly	Asn	Arg
				85					90					95	

Trp	Ser	Lys	Xaa	Ala	Gln	His	Leu	Pro	Gly	Ser	Thr	Asp	Asn	Glu	Xaa
			100					105					110		

Lys	Asn	Thr
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<211> 484

<212> DNA

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<223> n is a, c, g or t

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<222> (355)..(356)

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 gggggccatgg acgccggagg aggacctgat gctgggtctcc tacatccagg agcacggcgc 180
 cggaactgg cgcccgctgc cgacgaacac cgggctgatg cgttgcagca agagctgccg 240
 gctccggtgg acgaactacc tcaggccggg gatcaagcgg gggaacttca ccgagcanga 300
 ggagaagctc atcgctccacc tccaggctct cctcggcaac cgggtgggcaa cgatnncgtc 360
 gtacttgccg gganangacg ncaacnacat cangaatact gggaacannc acctcangaa 420
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<210> 24
 <211> 126
 <212> PRT
 <213> Oryza sativa

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Gly	Ala	Gly	Asn	Trp	Arg	Ala	Val	Pro	Thr	Asn	Thr	Gly	Leu	Met	Arg
	35						40					45			
Cys	Ser	Lys	Ser	Cys	Arg	Leu	Arg	Trp	Thr	Asn	Tyr	Leu	Arg	Pro	Gly
	50					55					60				
Ile	Lys	Arg	Gly	Asn	Phe	Thr	Glu	Xaa	Glu	Glu	Lys	Leu	Ile	Val	His
65					70					75					80
Leu	Gln	Ala	Leu	Leu	Gly	Asn	Arg	Trp	Ala	Thr	Xaa	Xaa	Ser	Tyr	Leu
			85						90					95	
Pro	Gly	Xaa	Asp	Xaa	Asn	Xaa	Ile	Xaa	Asn	Thr	Gly	Asn	Xaa	His	Leu
		100						105					110		
Xaa	Lys	Asn	Ser	Arg	Xaa	Cys	Lys	Pro	Pro	Glu	Val	Xaa	Lys		
	115						120					125			

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 <211> 1427
 <212> DNA
 <213> Oryza sativa

<400> 25

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taatggtagg	cctgtgactt	gtgattagtt	agtcctgagt	ggataaataa	agacataaat	1380
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<210> 26
 <211> 323
 <212> PRT
 <213> Oryza sativa

<400> 26

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Gly	Ala	Gly	Asn	Trp	Arg	Ala	Val	Pro	Thr	Asn	Thr	Gly	Leu	Met	Arg		
		35					40					45					
Cys	Ser	Lys	Ser	Cys	Arg	Leu	Arg	Trp	Thr	Asn	Tyr	Leu	Arg	Pro	Gly		
	50					55					60						
Ile	Lys	Arg	Gly	Asn	Phe	Thr	Glu	Gln	Glu	Glu	Lys	Leu	Ile	Val	His		
65					70					75					80		
Leu	Gln	Ala	Leu	Leu	Gly	Asn	Arg	Trp	Ala	Ala	Ile	Ala	Ser	Tyr	Leu		
				85					90					95			
Pro	Glu	Arg	Thr	Asp	Asn	Asp	Ile	Lys	Asn	Tyr	Trp	Asn	Thr	His	Leu		
			100					105				110					
Lys	Lys	Lys	Leu	Lys	Lys	Met	Gln	Ala	Ala	Gly	Gly	Gly	Glu	Asp	Ser		
		115				120						125					
Gly	Ala	Ala	Ser	Glu	Gly	Gly	Gly	Gly	Arg	Gly	Asp	Gly	Asp	Gly	Gly		
	130				135						140						
Gly	Lys	Ser	Val	Lys	Ala	Ala	Ala	Pro	Lys	Gly	Gln	Trp	Glu	Arg	Arg		
145					150					155					160		
Leu	Gln	Thr	Asp	Ile	His	Thr	Ala	Arg	Gln	Ala	Leu	Arg	Asp	Ala	Leu		
				165					170					175			
Ser	Leu	Asp	His	Pro	Asp	Pro	Ser	Pro	Ala	Thr	Ala	Ala	Ala	Ala	Ala		
			180					185				190					
Thr	Pro	Ala	Gly	Ser	Ser	Ala	Ala	Tyr	Ala	Ser	Ser	Ala	Asp	Asn	Ile		
		195					200					205					
Ala	Arg	Leu	Leu	Gln	Gly	Trp	Met	Arg	Pro	Gly	Gly	Gly	Gly	Gly	Gly		
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Asn	Gly	Lys	Gly	Pro	Glu	Ala	Ser	Gly	Ser	Thr	Ser	Thr	Thr	Ala	Thr		
225					230					235					240		
Thr	Gln	Gln	Gln	Pro	Gln	Cys	Ser	Gly	Glu	Gly	Ala	Ala	Ser	Ala	Ser		
				245					250					255			
Ala	Ser	Ala	Ser	Gln	Ser	Gly	Ala	Ala	Ala	Ala	Ala	Thr	Ala	Gln	Thr		
			260				265						270				
Pro	Glu	Cys	Ser	Thr	Glu	Thr	Ser	Lys	Met	Ala	Thr	Gly	Gly	Gly	Ala		
		275					280					285					
Gly	Gly	Pro	Ala	Pro	Ala	Phe	Ser	Met	Leu	Glu	Ser	Trp	Leu	Leu	Asp		
	290				295						300						
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 <211> 557

<212> DNA
 <213> Glycine max

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<222> (552)..(553)

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<400> 27

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tggccaaaag ctgctgggtct caaacgtacc ggaaagattg ccggctaang tggctaaact 240
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cagtaatgag atnaagaact antggnggac aaggatcaga agcacatcaa gcaactgaga 420
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<211> 94

<212> PRT

<213> Glycine max

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<400> 28

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Leu Ile Xaa Xaa Ile Asn Tyr Ile Ala Asn His Gly Glu Gly Val Trp
 20              25              30
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Asn Ser Leu Ala Lys Ser Cys Trp Ser Gln Thr Tyr Arg Lys Asp Cys
 35              40              45
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Arg Leu Xaa Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn
 50              55              60
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Xaa Thr Pro Glu Gly Thr Thr Leu Ile Met Glu Leu His Ala Lys Trp
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Asn Arg Trp Ser Lys Ile Ala Lys His Leu Pro Gly Arg Thr
85 90

<210> 29
<211> 988
<212> DNA
<213> Glycine max

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acgatggaag aagacttgat cttgatcaac tatattgcaa atcatgggga aggtgttttg 180
aattcttttg ccaaagctgc tgggtctcaa cgtaccggaa agagttgccg gctaagggtg 240
ctaaactacc tccgtcctga tgtagaaga gggaatatta caccgagga acaacttttg 300
atcatggagc ttcacgcaaa gtgggggaaac aggtgggtcca aaattgccaa gcatctacct 360
ggtaggacag ataatgagat caagaactat tggaggacca ggatccagaa gcacatcaag 420
caagctgaga actttcagca acaaatcagc aataactctg agataaatga tcaccaagct 480
agcactagcc atgtttctac catgggtgaa cccatggaga cctattctcc acccttttat 540
caaggaatgt tagagccatt ttcttcaatt cagttcccca caattaatcc tgatcaatcc 600
agttgttgta ccaatgacaa caacaacagc attaaactatt ggagcatgga ggatatctgg 660
tcaatgcagt tactgaacgg ggattaaata ttgatataatc aagataaacc taaattcttg 720
tataagttcc ataaaacact ggaatgtctc tggcttaaaa catattatta ttaggtttgt 780
ttatataagt agttggatat gtttggtttt gcgtaccatt attagcatat atatatatat 840
ttcaaatgag atgctatgtg cattgtaaaa gatatgggta agaaccacat agtttcaaaa 900
ctcttaata taattccagt cacttattat aggaagtcta ttattaatta tctccaagat 960
gtttgcttaa aaaaaaaaaa aaaaaaaaaa 988

<210> 30
<211> 208
<212> PRT
<213> Glycine max

<400> 30
Met Asp Lys Lys Gln Leu Cys Asn Thr Ser Gln Asp Pro Glu Val Arg
1 5 10 15
Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile
20 25 30
Ala Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly
35 40 45
Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu
50 55 60
Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu
65 70 75 80
Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala
85 90 95
Lys His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg
100 105 110
Thr Arg Ile Gln Lys His Ile Lys Gln Ala Glu Asn Phe Gln Gln Gln
115 120 125

Ile	Ser	Asn	Asn	Ser	Glu	Ile	Asn	Asp	His	Gln	Ala	Ser	Thr	Ser	His
130						135					140				
Val	Ser	Thr	Met	Ala	Glu	Pro	Met	Glu	Thr	Tyr	Ser	Pro	Pro	Phe	Tyr
145					150					155					160
Gln	Gly	Met	Leu	Glu	Pro	Phe	Ser	Ser	Ile	Gln	Phe	Pro	Thr	Ile	Asn
				165					170					175	
Pro	Asp	Gln	Ser	Ser	Cys	Cys	Thr	Asn	Asp	Asn	Asn	Asn	Ser	Ile	Asn
			180					185					190		
Tyr	Trp	Ser	Met	Glu	Asp	Ile	Trp	Ser	Met	Gln	Leu	Leu	Asn	Gly	Asp
		195					200					205			

<210> 31
 <211> 530
 <212> DNA
 <213> Glycine max

<220>
 <221> unsure
 <222> (301)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (356)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (388)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (393)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (470)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (485)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (495)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (513)
 <223> n is a, c, g or t

<220>

<221> unsure
 <222> (517)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (522)
 <223> n is a, c, g or t

<400> 31
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 tggacaatgg aagaagactt aatcttgatc acctatattg ccaatcacgg ggaagggggtt 120
 tggaaactctt tggccaaggc tgctggactt aaacgtaccg gaaagagttg ccggctccgg 180
 tggctaaact acctccgtcc tgatgttaga agagggaata ttacacccga ggaacagctt 240
 ttgatcatgg aacttcatgc aaagtgggga aacaggtggt ccaaaattgc caagcatcta 300
 nccggaagga ctgataatga gattaagaac tactggagga caaggatcaa gaacantca 360
 agcaagcctt caacaacttc aacaacanag tantaattct gagataattt acatcccaag 420
 cttgcacaac caattgtcaa caatgggcaa cccaaaaaaa ctaatctcan caatttcaag 480
 gaagnttatt cattnaatca attccaaaaa ccncacntct antgtttcaa 530

<210> 32
 <211> 204
 <212> PRT
 <213> Glycine max

<400> 32
 Met Asp Lys Lys Leu Gly Asn Thr Ser His Asp Pro Glu Val Arg Lys
 1 5 10 15
 Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Thr Tyr Ile Ala
 20 25 30
 Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly Leu
 35 40 45
 Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg
 50 55 60
 Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile
 65 70 75 80
 Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys
 85 90 95
 His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr
 100 105 110
 Arg Ile Gln Lys His Leu Lys Gln Ala Ser Ser Ser Phe Gln Gln Gln
 115 120 125
 Ser Ser Asn Ser Glu Ile Ile Tyr His Pro Gln Ala Cys Thr Ser Gln
 130 135 140
 Val Ser Thr Met Ala Gln Pro Ile Glu Thr Tyr Ser Pro Pro Ser Tyr
 145 150 155 160
 Gln Gly Met Leu Asp Pro Phe Ser Ile Gln Phe Pro Thr Asn Pro His
 165 170 175
 His Ser Ser Cys Cys Thr Asn Asp Asp Asp Asn Asn Asn Tyr Trp Ser
 180 185 190

Met Glu Asp Ile Trp Ser Met Gln Leu Ala Asn Tyr
195 200

<210> 33
<211> 910
<212> DNA
<213> Glycine max

<220>
<221> unsure
<222> (798)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (807)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (814)
<223> n is a, c, g or t

<400> 33
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tctcatgata cagaagttag aaagggacca tggatcatgg aagaagactt gatcttgata 120
aactatattg caaatcacgg tgaaggtgtt tggaattctt tagccaaagc ttctgggtctt 180
aaacgaacgg gaaagagttg tcgactccgt tggctaaact accttcgtcc tgatgttaga 240
agaggaaaca ttacacccga agaacagctt ttgatcatag aacttcatgc aaagtggggc 300
aataggtggt ccaaaattgc aaagcatctt ccaggaagaa ctgacaatga gattaagaac 360
ttctggagaa ctaggatcca gaagcacatt aagcaagctg agacttcaca acaacatggt 420
aattcatcag agaatagtaa taatgatcat caagcaagca atagcactag caaggtgtcc 480
accatggcac atccaaatga gactttctct tcaccctcat accaagcaac ttttgagcca 540
tttcaacctc aattcctaca atcaatgatc aatcaagttg ttgtaccagc aacaacaact 600
attggagcat cgaggatata tggtcgtcta tgcaattact caatggagat waattaaatc 660
tagctatatg catgcttata taaatcatat atgtgatgat atataaacct aagctcttat 720
tgagtgtggt caggcttaat aacatcatta ggtctggtat atatgagtag gttaagattg 780
gtgtgcatgc ctaaattgnag tattgcntta ttgnagtaag aataactagt tatggatgcc 840
tttaaaaaaa agttagttat gaattgaaat atatagtaac ttatatacta aaaaaaaaaa 900
aaaaaaaaaa 910

<210> 34
<211> 206
<212> PRT
<213> Glycine max

<400> 34
Met Asp Lys Lys Pro Cys Asp Ser Ser His Asp Pro Glu Val Arg Lys
1 5 10 15
Gly Pro Trp Ile Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile Ala
20 25 30
Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ser Gly Leu
35 40 45
Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg
50 55 60
Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile

65		70		75		80									
Ile	Glu	Leu	His	Ala	Lys	Trp	Gly	Asn	Arg	Trp	Ser	Lys	Ile	Ala	Lys
				85					90					95	
His	Leu	Pro	Gly	Arg	Thr	Asp	Asn	Glu	Ile	Lys	Asn	Phe	Trp	Arg	Thr
			100					105					110		
Arg	Ile	Gln	Lys	His	Ile	Lys	Gln	Ala	Glu	Thr	Ser	Gln	Gln	His	Gly
		115					120					125			
Asn	Ser	Ser	Glu	Asn	Ser	Asn	Asn	Asp	His	Gln	Ala	Ser	Asn	Ser	Thr
	130					135					140				
Ser	Lys	Val	Ser	Thr	Met	Ala	His	Pro	Asn	Glu	Thr	Phe	Ser	Ser	Pro
145					150					155					160
Ser	Tyr	Gln	Ala	Thr	Phe	Glu	Pro	Phe	Gln	Pro	Gln	Phe	Leu	Gln	Ser
				165					170					175	
Met	Ile	Asn	Gln	Val	Val	Val	Pro	Ala	Thr	Thr	Thr	Ile	Gly	Ala	Ser
		180						185					190		
Arg	Ile	Ser	Gly	Arg	Leu	Cys	Asn	Tyr	Ser	Met	Glu	Ile	Asn		
	195						200					205			

<210> 35
 <211> 863
 <212> DNA
 <213> Glycine max

<400> 35
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 agatcctgaa gtgagaaaag ggccttggac aatggaagaa gacttgatct tgatgaacta 120
 tattgcaaat catggggaag gtgtttggaa ctctttggcc aaagctgctg gtctcaaacg 180
 taacggaaag agttgccggc taaggtggct aaattacctc cgtcctgatg ttagaagagg 240
 gaatattaca cccgaggaac aacttttgat tatggagctc cacgcaaagt ggggaaacag 300
 gtggtccaaa attgccaaagc atctacctgg aaggactgat aatgagatca agaactattg 360
 gaggacaagg atccagaagc acatcaagca agctgagaac tttcagcaac agagtagtaa 420
 taattctgag ataaatgatc accaagctag cactagccat gtttccacca tggctgagcc 480
 catggagatg tattctccac cctgttatca aggaatgtta gagccatttt caactcagtt 540
 ccctacaatt aatcctgatc aatccagttg ttgtaccaat gacaacaaca acattaacta 600
 ttggagcatg gaggatagct ggtcaatgca attactgaac ggtgattaaa tattatcaag 660
 ataaaaccta agttytgaag ttccataagg ctggaatgtc tytggattaa aacatattat 720
 tgggtttgtt tatataagta gttggatgtt tgggttttgcg taccattatt agctatgtgc 780
 tgtaatatat acgagatytt atattaaact atatctgcat gctttatata taaaaaaaaa 840
 aaaaaaaaaa aaaaaaaaaa aaa 863

<210> 36
 <211> 206
 <212> PRT
 <213> Glycine max

<400> 36
 Met Asp Lys Lys Gln Gln Cys Lys Thr Ser Gln Asp Pro Glu Val Arg
 1 5 10 15
 Lys Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Met Asn Tyr Ile
 20 25 30
 Ala Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly

35	40	45
Leu Lys Arg Asn Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu		
50	55	60
Arg Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu		
65	70	75 80
Ile Met Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala		
	85	90 95
Lys His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg		
	100	105 110
Thr Arg Ile Gln Lys His Ile Lys Gln Ala Glu Asn Phe Gln Gln Gln		
	115	120 125
Ser Ser Asn Asn Ser Glu Ile Asn Asp His Gln Ala Ser Thr Ser His		
	130	135 140
Val Ser Thr Met Ala Glu Pro Met Glu Met Tyr Ser Pro Pro Cys Tyr		
145	150	155 160
Gln Gly Met Leu Glu Pro Phe Ser Thr Gln Phe Pro Thr Ile Asn Pro		
	165	170 175
Asp Gln Ser Ser Cys Cys Thr Asn Asp Asn Asn Asn Ile Asn Tyr Trp		
	180	185 190
Ser Met Glu Asp Ser Trp Ser Met Gln Leu Leu Asn Gly Asp		
	195	200 205

<210> 37
 <211> 805
 <212> DNA
 <213> Glycine max

<400> 37
 aaaaaaacat gcaactcatc atctcatgat cctgaagtga gaaagggacc atggaccatg 60
 gaagaagact tgatcttgat aaactatat gcaaatacag gtgaagggtg ttggaactcc 120
 ttagccaaag cttctggtct caaacgaacg ggaaagagtt gtcgactccg ttggctaaac 180
 taccttcgctc ctgatgttag aagaggaaac attacacccg aggaacagct tttgatcata 240
 gaacttcacg caaagtgggg caataggtgg tccaaaattg caaagcatct tccaggaaga 300
 actgacaatg agattaagaa cttctggaga acaaggatcc aaaagcacat taagcaagct 360
 gagacttcac aacaacatgg taattcagag aataatgatc atcaagcaag cactagtact 420
 agcaaagtgt ccaccatggc acatccaaat gagactttct ctccaccctc ataccaagga 480
 acttttgagc cattccaacc tcaattccct acaatcactg atcaatcaag ttgttggtacc 540
 accaccaacg acaacaacaa ctattggagc atcgaggata tctgggtcgtc tatgcaatta 600
 ctcaatggag attaaaccta gctatatgca tgcctatata aatcatatat atgatgatat 660
 ataaacctaa gctctttagt agtgtgttca ggcttaataa catcattagg tctgtttata 720
 tgagttagtct aagtttggtg tttgtaatgc atgatgtgag ttaagaatta atttagttat 780
 ggttggaaaa aaaaaaaaaa aaaaa 805

<210> 38
 <211> 204
 <212> PRT
 <213> Glycine max

<400> 38
 Lys Lys Pro Cys Asn Ser Ser Ser His Asp Pro Glu Val Arg Lys Gly
 1 5 10 15

Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile Ala Asn
 20 25 30
 His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ser Gly Leu Lys
 35 40 45
 Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
 50 55 60
 Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile Ile
 65 70 75 80
 Glu Leu His Ala Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys His
 85 90 95
 Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Arg Thr Arg
 100 105 110
 Ile Gln Lys His Ile Lys Gln Ala Glu Thr Ser Gln Gln His Gly Asn
 115 120 125
 Ser Glu Asn Asn Asp His Gln Ala Ser Thr Ser Thr Ser Lys Val Ser
 130 135 140
 Thr Met Ala His Pro Asn Glu Thr Phe Ser Pro Pro Ser Tyr Gln Gly
 145 150 155 160
 Thr Phe Glu Pro Phe Gln Pro Gln Phe Pro Thr Ile Thr Asp Gln Ser
 165 170 175
 Ser Cys Cys Thr Thr Thr Asn Asp Asn Asn Asn Tyr Trp Ser Ile Glu
 180 185 190
 Asp Ile Trp Ser Ser Met Gln Leu Leu Asn Gly Asp
 195 200

<210> 39
 <211> 751
 <212> DNA
 <213> Glycine max

<400> 39
 tggatgttaa gaaaggtggg tctgtagtac aagcacaagt gaagttgcag aagcataacg 60
 aaaaggagat gggcatgaga aaaggtccat gggcgggttg ggaggacacc attctggtca 120
 attacatcgc cacacacggt gaaggccact ggaattccgt ggcacgatgt gcaggtctaa 180
 ggaggagtgg gaagagttgc agattaaggt ggctaaacta cttgcgccca gacgtgcggc 240
 gtggaaatat cactctcaa gaacaaatat taattctcga ccttcactct cgctggggca 300
 acaggtggtc aaagattgct caacagctgc caggaagaac agacaacgaa ataaagaact 360
 attggaggac cagagtgata aaacaagcga agcagctaaa gtgcgatgtg aatagcaaac 420
 agttcagaga cacgttgcgt tacgtttgga tgccgcgctt gctggagcgg cttcagccca 480
 catcacaagc actggagcca aaccaaagtg gacttgtgtt acacgcttca tcatcactgc 540
 ttccttcgaa ttccgaccat agtattgaaa gggggtcgga tctgtggcca ggtttcaata 600
 accaaatgtt gttggaacag gggagtggcg gtgacttggt ggaaagtgtg tgggatgacg 660
 acaatatgtg ctttttgcaa cagctttctt atgacctcca aatgaaataa aatacaattc 720
 ccttccgtca cgcaaaaaaa aaaaaaaaaa a 751

<210> 40
 <211> 235
 <212> PRT
 <213> Glycine max

<400> 40

Asp Val Lys Lys Gly Gly Ser Val Val Gln Ala Gln Val Lys Leu Gln
1 5 10 15

Lys His Asn Glu Lys Glu Met Gly Met Arg Lys Gly Pro Trp Ala Val
20 25 30

Glu Glu Asp Thr Ile Leu Val Asn Tyr Ile Ala Thr His Gly Glu Gly
35 40 45

His Trp Asn Ser Val Ala Arg Cys Ala Gly Leu Arg Arg Ser Gly Lys
50 55 60

Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg
65 70 75 80

Gly Asn Ile Thr Leu Gln Glu Gln Ile Leu Ile Leu Asp Leu His Ser
85 90 95

Arg Trp Gly Asn Arg Trp Ser Lys Ile Ala Gln Gln Leu Pro Gly Arg
100 105 110

Thr Asp Asn Glu Ile Lys Asn Tyr Trp Arg Thr Arg Val Ile Lys Gln
115 120 125

Ala Lys Gln Leu Lys Cys Asp Val Asn Ser Lys Gln Phe Arg Asp Thr
130 135 140

Leu Arg Tyr Val Trp Met Pro Arg Leu Leu Glu Arg Leu Gln Pro Thr
145 150 155 160

Ser Gln Ala Leu Glu Pro Asn Gln Ser Gly Leu Val Leu His Ala Ser
165 170 175

Ser Ser Leu Leu Pro Ser Asn Ser Asp His Ser Ile Glu Arg Gly Ser
180 185 190

Asp Leu Trp Pro Gly Phe Asn Asn Gln Met Leu Leu Glu Gln Gly Ser
195 200 205

Gly Gly Asp Leu Leu Glu Ser Leu Trp Asp Asp Asp Asn Met Cys Phe
210 215 220

Leu Gln Gln Leu Ser Tyr Asp Leu Gln Met Lys
225 230 235

<210> 41

<211> 500

<212> DNA

<213> Glycine max

<400> 41

catttctaata tgttctgata catatatata atactttctt tgtaataact taaagaaccc 60
cacaaaaaca ccaaccatgt ccacaattgc aaagagagat ttgagttcta atgaagaaga 120
gagtgaagctg agaagaggct cttggactct tgaagaagac agcttactca tacactatat 180
tgctcgatcat ggtgaaggcc gttggaatat gttagccaaa agtgcaggat tgaagaggac 240
tggaataaagt tgcagactta gatggctgaa ttatttgaaa ccagacatta agagagggaa 300
cctcactcca caggagcaac tcttgatcct tgaactccat tccaagtggg gtaacaggtg 360
gtcaaaaatt gctcagcatc tgccaggaag aacagacaat gagatcaaga actattggag 420
aacaaggata cagaaacagg gcacgccaac ttaacattga atctggtagc aagagattca 480

ttgatgctgt cagtgttttt

500

<210> 42

<211> 229

<212> PRT

<213> Glycine max

<220>

<221> UNSURE

<222> (138)

<223> Xaa can be any naturally occurring amino acid

<400> 42

Met	Ser	Thr	Ile	Ala	Lys	Arg	Asp	Leu	Ser	Ser	Asn	Glu	Glu	Glu	Ser
1				5				10						15	

Glu	Leu	Arg	Arg	Gly	Pro	Trp	Thr	Leu	Glu	Glu	Asp	Ser	Leu	Leu	Ile
			20					25					30		

His	Tyr	Ile	Ala	Arg	His	Gly	Glu	Gly	Arg	Trp	Asn	Met	Leu	Ala	Lys
		35					40					45			

Ser	Ala	Gly	Leu	Lys	Arg	Thr	Gly	Lys	Ser	Cys	Arg	Leu	Arg	Trp	Leu
	50					55					60				

Asn	Tyr	Leu	Lys	Pro	Asp	Ile	Lys	Arg	Gly	Asn	Leu	Thr	Pro	Gln	Glu
65					70					75					80

Gln	Leu	Leu	Ile	Leu	Glu	Leu	His	Ser	Lys	Trp	Gly	Asn	Arg	Trp	Ser
				85					90					95	

Lys	Ile	Ala	Gln	His	Leu	Pro	Gly	Arg	Thr	Asp	Asn	Glu	Ile	Lys	Asn
			100					105					110		

Tyr	Trp	Arg	Thr	Arg	Ile	Gln	Lys	Gln	Ala	Arg	Gln	Leu	Asn	Ile	Glu
		115					120					125			

Ser	Gly	Ser	Lys	Arg	Phe	Ile	Asp	Ala	Xaa	Lys	Cys	Phe	Trp	Met	Pro
	130					135					140				

Arg	Leu	Leu	Gln	Lys	Met	Glu	Gln	Ser	Asn	Ser	Pro	Ser	Pro	His	His
145					150					155					160

Ser	Ser	Met	Thr	Asn	Met	Met	Asn	Leu	Gly	Asn	Ser	Gly	Glu	Ala	Ser
				165					170					175	

Met	Ser	Ser	Met	Ser	Ser	Ser	Phe	Asn	Ile	Asn	Pro	Ser	Met	Ser	Ser
			180					185					190		

Ser	Ser	Ser	Pro	Pro	Lys	Gly	Asn	Leu	Leu	Trp	Met	Met	Pro	Asn	His
		195					200					205			

Phe	Lys	Tyr	Tyr	Val	Gln	Pro	His	Gln	Ser	Ile	Pro	Arg	Phe	Leu	Pro
	210					215					220				

Ile	Phe	Thr	Ala	Thr
225				

<210> 43

<211> 1348

<212> DNA

<213> Glycine max

<400> 43

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tagtgaggac gagatggacc ttcgaagagg cccttggacc gtcgatgaag acctcactct 180
tatcaattac gttgccactc atggcggaagg tcgctggaat accctcgccc tctctgctgg 240
gctgaaacga acggggaaga gttgcagatt gaggtggctg aattatctgc gtcctgatgt 300
tcgacgtgga aacatcacgc ttgaagaaca acttttgatt ctggagctcc attctcgctg 360
gggaaaccga tggtcgaaaa ttgctcaata tttgcctggg agaaccgaca atgagataaa 420
gaactattgg agaaccctgtg tccaaaagca tgccaagcaa ctcaaattgcg acgtgaatag 480
caagcaattc aaggacacca tgcgttacat ttggatgcc aaggctcgtg aacgcattca 540
agccaccgct gccgcctccg caccacaacc cgttaccgta ccaccgcgac caacaatgca 600
tacacctacg gaagcaacct taataacaac aaattcgagg ttcacgatca caagggcaaa 660
atgggggttaa ccgatacctt agttatgaac aatgacttaa tgggttcaca tgtcacgcaa 720
agttacaccc ctgagaatag tagcaccggt gcgtcatcat cagactcgtt tgggactcaa 780
gtctcagcaa tttctgattt gactgaatat tacactgtca ctggtagtgg taacaataac 840
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acaagcccat ctgggttggt ccctcaaggg ctagattttc aatccatgga tccaaacacc 960
ccgtggaaca tgcaaagtgg ggactcctct gacagttttt ggaacgttga aagcatgttg 1020
ttcttagagc agcaactcat gaatgacaac atgtgaaaac attgggaata ggaaaataag 1080
acttagatac ggttcttctt agtatttgtt tttaattaaa gttaaagtta acacaagtta 1140
ttgaagtgaa actttaattt taattgaata ataatactga aaacaagagt tgtatttaag 1200
ttttattctt ttatgaatta tgaattagat tgacagaagg gggtgtttgt gaaatataca 1260
ggtgaaagta tagaaagtag caacattaat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1320
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1348
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<210> 44

<211> 196

<212> PRT

<213> Glycine max

<400> 44

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Met Asp Gly Lys Gly Ala Arg Ser Ser Asn Thr Leu Leu Ser Ser Glu
 1          5          10          15

Asp Glu Met Asp Leu Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Leu
 20          25          30

Thr Leu Ile Asn Tyr Val Ala Thr His Gly Glu Gly Arg Trp Asn Thr
 35          40          45

Leu Ala Leu Ser Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
 50          55          60

Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr
 65          70          75          80

Leu Glu Glu Gln Leu Leu Ile Leu Glu Leu His Ser Arg Trp Gly Asn
 85          90          95

Arg Trp Ser Lys Ile Ala Gln Tyr Leu Pro Gly Arg Thr Asp Asn Glu
100          105          110

Ile Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys Gln Leu
115          120          125

Lys Cys Asp Val Asn Ser Lys Gln Phe Lys Asp Thr Met Arg Tyr Ile
130          135          140

Trp Met Pro Arg Leu Val Glu Arg Ile Gln Ala Thr Ala Ala Ala Ser
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145		150		155		160									
Ala	Pro	Gln	Pro	Val	Thr	Val	Pro	Pro	Arg	Pro	Thr	Met	His	Thr	Pro
				165					170					175	
Thr	Glu	Ala	Thr	Leu	Ile	Thr	Thr	Asn	Ser	Arg	Phe	Thr	Ile	Thr	Arg
			180					185					190		
Ala	Lys	Trp	Gly												
			195												

<210> 45
 <211> 1236
 <212> DNA
 <213> Glycine max

<220>
 <221> unsure
 <222> (519)
 <223> n is a, c, g or t

<220>
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 <222> (521)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (530)..(531)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (534)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (800)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (1124)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (1151)
 <223> n is a, c, g or t

<400> 45

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aaacttaatt	tcttttgttt	tgagtttctt	agagaatgga	tgaaaaagga	gcaagaagta	120
gcaacaccct	tttaagttgt	gaggacgaga	tggaacctcg	aagaggccct	tggaaccgtcg	180
atgaagacct	cactcttata	aattacattg	ccactcatgg	cgaaggctcg	tggaacacgc	240
tcgccctctc	tgctgggctg	aaacgaacgg	ggaagagttg	cagattgagg	tggtctgaatt	300
atctgcgtcc	tgatgttcga	cgtggaaaca	tcacacttga	agaacaactt	ttgattctgg	360
agcttcattc	tcgctgggga	aaccgttggt	cgaaaattgc	tcaatatattg	cctggtagaa	420
ccgacaacga	gataaagaac	tattggagaa	cccgtgtcca	aaagcatgcc	aagcaactca	480
aatgtgacgt	gaatagcaag	caattcaagg	acaccatgng	ntacctttgn	natnccaagg	540

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ctcgtggaac gcattcaagc agcggcgacg gcccccgtaa ccaccaccgt aactgcggcc 600
gccaccaaca atgcattcac ctacggraac aaccttatac caccaaattc gaggttctga 660
atcacaaggg cagaatgggg ttaaccgatc cttcagttgc gaacaatgac tttgtgggtt 720
cacatgtcac gcaaaggtac cctactcctg agaatagtag cacgggtgcg tcatcatcag 780
actcgtttgg gactcaagtn tcaacaattt ctgatttgac tgaaaattcc agtgtccctg 840
aaaatactaa ttctgcggat tattatcaac cctctcaaatt tagtaattac tcggataatt 900
gcatcacaag cccatctggg ttcttggtcc ctcaaggact agatcttcaa tccatggatc 960
caaacacacc gtggaacatg caaagtgggg actcctctga caatttttgg gacgttgaaa 1020
gcatgttatt cttagagcag caactcatga atgacaacat gtgaaacatt gggaatagga 1080
aaataagact tagatacggg tcttctaata ttttttagtg ktgngtttta attaaagtta 1140
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aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 1236

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<210> 46
<211> 322
<212> PRT
<213> Glycine max

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<220>
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<222> (142)
<223> Xaa can be any naturally occurring amino acid

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<220>
<221> UNSURE
<222> (145)..(146)..(147)
<223> Xaa can be any naturally occurring amino acid

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<220>
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<222> (178)
<223> Xaa can be any naturally occurring amino acid

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<400> 46
Met Asp Glu Lys Gly Ala Arg Ser Ser Asn Thr Leu Leu Ser Cys Glu
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Asp Glu Met Asp Leu Arg Arg Gly Pro Trp Thr Val Asp Glu Asp Leu
      20              25              30

Thr Leu Ile Asn Tyr Ile Ala Thr His Gly Glu Gly Arg Trp Asn Thr
      35              40              45

Leu Ala Leu Ser Ala Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu
      50              55              60

Arg Trp Leu Asn Tyr Leu Arg Pro Asp Val Arg Arg Gly Asn Ile Thr
      65              70              75              80

Leu Glu Glu Gln Leu Leu Ile Leu Glu Leu His Ser Arg Trp Gly Asn
      85              90              95

Arg Trp Ser Lys Ile Ala Gln Tyr Leu Pro Gly Arg Thr Asp Asn Glu
      100             105             110

Ile Lys Asn Tyr Trp Arg Thr Arg Val Gln Lys His Ala Lys Gln Leu
      115             120             125

Lys Cys Asp Val Asn Ser Lys Gln Phe Lys Asp Thr Met Xaa Tyr Leu
      130             135             140

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Xaa	Xaa	Xaa	Lys	Ala	Arg	Gly	Thr	His	Ser	Ser	Ser	Gly	Asp	Gly	Pro	145	150	155	160
Arg	Asn	His	His	Arg	Asn	Cys	Gly	Arg	His	Gln	Gln	Cys	Ile	His	Leu	165	170	175	
Arg	Xaa	Gln	Pro	Tyr	Thr	Thr	Lys	Phe	Glu	Val	Leu	Asn	His	Lys	Gly	180	185	190	
Arg	Met	Gly	Leu	Thr	Asp	Pro	Ser	Val	Ala	Asn	Asn	Asp	Phe	Val	Gly	195	200	205	
Ser	His	Val	Thr	Gln	Arg	Tyr	Pro	Thr	Pro	Glu	Asn	Ser	Ser	Thr	Gly	210	215	220	
Ala	Ser	Ser	Ser	Asp	Ser	Phe	Gly	Thr	Gln	Val	Ser	Thr	Ile	Ser	Asp	225	230	235	240
Leu	Thr	Glu	Asn	Ser	Ser	Val	Pro	Glu	Asn	Thr	Asn	Ser	Ala	Asp	Tyr	245	250	255	
Tyr	Gln	Pro	Ser	Gln	Ile	Ser	Asn	Tyr	Ser	Asp	Asn	Cys	Ile	Thr	Ser	260	265	270	
Pro	Ser	Gly	Phe	Leu	Phe	Pro	Gln	Gly	Leu	Asp	Leu	Gln	Ser	Met	Asp	275	280	285	
Pro	Asn	Thr	Pro	Trp	Asn	Met	Gln	Ser	Gly	Asp	Ser	Ser	Asp	Asn	Phe	290	295	300	
Trp	Asp	Val	Glu	Ser	Met	Leu	Phe	Leu	Glu	Gln	Gln	Leu	Met	Asn	Asp	305	310	315	320

Asn Met

<210> 47
 <211> 1181
 <212> DNA
 <213> Glycine max

<400> 47

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gacaatg	ttagaag	gccttgg	ctggaag	ataacttg	ctcccaat	120
attttta	atgggga	gcgatgg	ttgctgg	aacgttc	attaaaga	180
actggga	gttgcag	aaggtgg	aattatc	agccagat	aaaacggg	240
aattta	cacaaga	acttata	cttgaac	actcaa	gggaaac	300
tggtcaa	ttgcaca	tttgcc	agaacag	atgaaat	gaactatt	360
agaacta	ttcagaa	agcaaga	ttgaaa	acactga	cagagagt	420
caagaac	ttaggcg	ctggatg	agattgc	agaaag	agaatcat	480
tcttcaa	tgtcaat	aaaccag	attccta	cttttg	tgtttctc	540
catttta	ttgggac	acctcct	cagggac	gtatga	agctgg	600
acttaca	accaaca	gcagact	actcgga	ccaaca	ttcatgc	660
tccttgc	agtcaga	tattcc	gtgcct	attttg	caccacc	720
acccaat	atgcctg	taccaat	tttggc	tcacata	aggttata	780
gtaaaca	atgtcta	gatggac	ttcaaa	ctactac	ggtggctg	840
gatgcgc	acccaat	tgattgt	atggtag	gcaattg	aaacaac	900
tttgc	acatgtg	catggat	ctgtgg	ttagca	acaaaa	960
gatttt	ttttgt	tttgg	ccaaa	aaaact	ctttgat	1020
gttatt	ttatcat	ctgtgg	gctacc	taatta	agatgg	1080
tgtttt	acatctg	tgtatt	tgttc	agtact	taatttg	1140

1181

<211> 312

<212> PRT

<213> Glycine max

<400> 48

Met Ser Thr Ser Lys Ser Val Ser Ser Ser Ser Glu Asp Asp Asn Glu
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Leu Arg Arg Gly Pro Trp Thr Leu Glu Glu Asp Asn Leu Leu Ser Gln
20 25 30

Tyr Ile Phe Asn His Gly Glu Gly Arg Trp Asn Leu Leu Ala Lys Arg
35 40 45

Ser Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
50 55 60

Tyr Leu Lys Pro Asp Val Lys Arg Gly Asn Leu Thr Pro Gln Glu Gln
65 70 75 80

Leu Ile Ile Leu Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser Lys
85 90 95

Ile Ala Gln His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
100 105 110

Trp Arg Thr Arg Ile Gln Lys Gln Ala Arg His Leu Lys Ile Tyr Thr
115 120 125

Asp Ser Arg Glu Phe Gln Glu Leu Val Arg Arg Phe Trp Met Pro Arg
130 135 140

Leu Leu Gln Lys Ala Lys Glu Ser Ser Ser Ser Asn Met Ser Ile Gln
145 150 155 160

Asn Gln Ala Ile Pro Met Pro Phe Asp Tyr Val Ser Gln His Leu Thr
165 170 175

Val Gly Thr Ile Pro Pro Trp Gln Gly Pro Cys Met Asn Glu Ala Gly
180 185 190

Pro Thr Tyr Met Asp Gln His Glu Gln Thr Gln Thr Arg Asn Thr Asn
195 200 205

Asn Gly Ser Cys Ile Ser Leu Ser Glu Ser Ala Asn Ile Pro Lys Val
210 215 220

Pro Gln His Phe Gly His Thr Thr Ile Thr Gln Phe His Ala Leu Asn
225 230 235 240

Thr Asn Asp Phe Gly Thr Phe Thr Tyr Glu Gly Tyr Asn Val Asn Asn
245 250 255

Asn Val Tyr Glu Met Asp Asn Phe Lys Thr Thr Thr Thr Trp Val Ala
260 265 270

Glu Asp Ala Gln Tyr Pro Ile Gly Asp Cys Gln Met Val Gly Ser Asn
275 280 285

Trp Val Asn Asn Asp Phe Ala Cys Asn Met Trp Asn Met Asp Glu Leu
 290 295 300

Trp Gln Phe Ser Lys Leu Gln Lys
 305 310

<210> 49
 <211> 1186
 <212> DNA
 <213> Glycine max

<400> 49
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 tagtcatgga gaagggcgat ggaatttgct agctaaacgt tcaggattaa agcgaactgg 180
 gaaaagttgc agattaaggt ggctaaatta tctaaagcca gatgtaaaac ggggaaattt 240
 aaccccacaa gagcaactta taatcctcga actccactca aagtggggaa acaggtggtc 300
 aaaaattgca caaaatttgc caggcagaac agacaatgaa atcaagaact attggagaac 360
 taggattcag aaacaagcaa gacatttgaa aattgacact gacaccagag agtttcagga 420
 acttggttagg cgtttctgga tgcctagatg cttcaaaaag cccaagaatc atcttcttca 480
 gccatgtcaa ttcaaaacca ggcaactcct atgccttttg atggtgtttc tcagcattca 540
 actgttggga ccataccatc acattcacac accccttggc agggaccttg tatgaatgaa 600
 gctggtccca cttacatgga ccaacatgag cagaactcag actctgaaca caacaatggt 660
 tcatgcatct ccttgtctga gtcagcaaat tttccaaaag tgcctcagca ttttggacgc 720
 accaccatca cccaatatca tgccttgaat aacaatgact ttggcacctt cacatatgac 780
 ggctacaatg taagcaacaa tgtctatgag atggacaact tcaaaacgcc tactacaagg 840
 gtggctgagg atgcgcaata cccaactggt gattgtcaaa tggtaggaag caattgggta 900
 aacagcgatt ttgcatgtaa catgtggaac atggatgaat tgtggcaatt tagcaagtta 960
 caaaaataag attttagggt ttggtttttt tggagttacc aagactctat ctttgggtgat 1020
 gttattattg ttatcatgaa ctgttgatta gctactacca aattaattaa tacagatggt 1080
 gattgttttc tgtacatctg ttttgcatta ctctgttttg caatttgtat tgattgagaa 1140
 aagtcattaa ttagtcacta gttcaaaaca caaaaaaaaa aaaaaa 1186

<210> 50
 <211> 192
 <212> PRT
 <213> Glycine max

<400> 50
 Met Ser Thr Ser Lys Ser Val Ser Ser Ser Ser Glu Asp Asp Asn Glu
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 Leu Arg Arg Gly Pro Trp Thr Leu Glu Glu Asp Asn Leu Leu Ser Gln
 20 25 30
 Tyr Ile Ser Ser His Gly Glu Gly Arg Trp Asn Leu Leu Ala Lys Arg
 35 40 45
 Ser Gly Leu Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn
 50 55 60
 Tyr Leu Lys Pro Asp Val Lys Arg Gly Asn Leu Thr Pro Gln Glu Gln
 65 70 75 80
 Leu Ile Ile Leu Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser Lys
 85 90 95
 Ile Ala Gln Asn Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
 100 105 110

Trp	Arg	Thr	Arg	Ile	Gln	Lys	Gln	Ala	Arg	His	Leu	Lys	Ile	Asp	Thr
		115					120					125			
Asp	Thr	Arg	Glu	Phe	Gln	Glu	Leu	Val	Arg	Arg	Phe	Trp	Met	Pro	Arg
	130					135					140				
Cys	Phe	Lys	Lys	Pro	Lys	Asn	His	Leu	Leu	Gln	Pro	Cys	Gln	Phe	Lys
145					150					155					160
Thr	Arg	Gln	Leu	Leu	Cys	Leu	Leu	Met	Val	Phe	Leu	Ser	Ile	Gln	Leu
			165					170						175	
Leu	Gly	Pro	Tyr	His	His	Ile	His	Thr	Pro	Leu	Gly	Arg	Asp	Leu	Val
		180						185					190		

<210> 51
 <211> 487
 <212> DNA
 <213> Glycine max

<220>
 <221> unsure
 <222> (358)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (429)
 <223> n is a, c, g or t

<400> 51
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 agatagagag aggaaaacga cctatatattt ttttcctttg agagcttcag gggctaggaa 120
 aattagaagg acagccacaa gtataaaggc ggtgaaataa aagagaaaga caagaaggag 180
 acatgggaag accaccttgt tgtgacaaag aaggggtcaa gaaagggcct tggactcctg 240
 aagaagacat catattggtg tcttatattc aggaacatgg tcctggaaat tggagggcag 300
 ttcctgccaa aacaggggtt tcaagatgca gcaagagttg cagacttaga tggacgantt 360
 acctgaggcc aggaatcaag cgtggtaact tcacaagaac aagaggagaa gatgataatc 420
 catcttcang atcttttagg aaacagatgg ggtgcaatag cttcatacct tccacaaagg 480
 acaaggg 487

<210> 52
 <211> 90
 <212> PRT
 <213> Glycine max

<220>
 <221> UNSURE
 <222> (59)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (72)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (83)
 <223> Xaa can be any naturally occurring amino acid

<400> 52

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Trp Thr Pro Glu Glu Asp Ile Ile Leu Val Ser Tyr Ile Gln Glu His
20 25 30

Gly Pro Gly Asn Trp Arg Ala Val Pro Ala Lys Thr Gly Leu Ser Arg
35 40 45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Xaa Tyr Leu Arg Pro Gly
50 55 60

Ile Lys Arg Gly Asn Phe Thr Xaa Glu Gln Glu Glu Lys Met Ile Ile
65 70 75 80

His Leu Xaa Asp Leu Leu Gly Asn Arg Trp
85 90

<210> 53

<211> 1556

<212> DNA

<213> Glycine max

<400> 53

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ctaggaaaat	tagaaggaca	gccacaagta	taaaggcggg	gaaataaaaag	agaaagacaa	180
gaaggagaca	tgggaagacc	accttggtgt	gacaaagaag	gggtcaagaa	agggccttgg	240
actcctgaag	aagacatcat	attggtgtct	tatattcagg	aacatgggtcc	tggaaattgg	300
agggcagttc	ctgccaaaac	agggttgtca	agatgcagca	agagttgcag	acttagatgg	360
acgaattacc	tgaggccagg	aatcaagcgt	ggtaacttca	cagaacaaga	ggagaagatg	420
ataatccatc	ttcaagatct	tttaggaaac	agatgggctg	caatagcttc	ataccttcca	480
caaagaacag	acaatgacat	aaagaactat	tggaataccc	atttgagaaa	gaagctgaag	540
aagatgcaag	caggcgggtga	agggtggtagc	tttgagagaag	ggttttcagc	ctcaaggcaa	600
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ctcagtgaag	ctcttttcacc	agagaaaaag	ccatcttggt	tatctgcctc	aaactcaaac	720
ccttcagata	gtagcagctc	cttctcttcc	acaaaaccaa	caacaacaca	atctgtgtgc	780
tatgcatcaa	gtgctgacaa	catagctaga	atgctcaagg	gttgatgaa	gaaccacca	840
aagtcctcaa	gaaccaactc	gtctatgact	cagaactcat	tcaacaactt	agcaggtgct	900
gatactgctt	gtagtagtgg	agcaaaggga	ccactaagca	gtgccgaatt	gtctgagaat	960
aattttgaat	ccttggttga	ttttgatcag	tctttggagt	cttcaaactc	tgatcaattc	1020
tctcagtcct	tgtctcctga	ggccactggt	ttgcaagatg	aaagcaagcc	tgatattaat	1080
attgctgcag	aaattatgcc	cttctctttg	cttgagaaat	ggctccttga	tgaggcaggt	1140
tgccaagaga	aattagttgg	ttgttggtgt	gatgccaaag	ttttctaagt	tgggttcatt	1200
ttgtgacata	tgagactgtg	ggattttttt	attttatttt	attttatttc	ataagttata	1260
ggtagggcct	catcaattaa	tctcgcttcg	gccttattag	agagagaagt	tttccagcct	1320
ttggtgctag	acgtgtatat	gttaattatt	attgacatta	tgatgattat	tatcatactg	1380
tgttagttgc	catacactgg	caaacttgct	tctcttatgt	aaagttgatc	ttgcgacgag	1440
atcctgcttt	atggcttttag	gcagcgcgac	cggctcttct	tctttgtgtc	gcttgattag	1500
taaccccccc	cggggggggc	ccgggtccaa	atcccccccta	atggggtcct	tttttag	1556

<210> 54

<211> 332

<212> PRT

<213> Glycine max

<400> 54

Met Gly Arg Pro Pro Cys Cys Asp Lys Glu Gly Val Lys Lys Gly Pro
1 5 10 15

Trp	Thr	Pro	Glu	Glu	Asp	Ile	Ile	Leu	Val	Ser	Tyr	Ile	Gln	Glu	His		
			20					25					30				
Gly	Pro	Gly	Asn	Trp	Arg	Ala	Val	Pro	Ala	Lys	Thr	Gly	Leu	Ser	Arg		
		35					40					45					
Cys	Ser	Lys	Ser	Cys	Arg	Leu	Arg	Trp	Thr	Asn	Tyr	Leu	Arg	Pro	Gly		
	50					55					60						
Ile	Lys	Arg	Gly	Asn	Phe	Thr	Glu	Gln	Glu	Glu	Lys	Met	Ile	Ile	His		
65					70					75					80		
Leu	Gln	Asp	Leu	Leu	Gly	Asn	Arg	Trp	Ala	Ala	Ile	Ala	Ser	Tyr	Leu		
				85					90					95			
Pro	Gln	Arg	Thr	Asp	Asn	Asp	Ile	Lys	Asn	Tyr	Trp	Asn	Thr	His	Leu		
			100					105					110				
Arg	Lys	Lys	Leu	Lys	Lys	Met	Gln	Ala	Gly	Gly	Glu	Gly	Gly	Ser	Phe		
		115					120					125					
Gly	Glu	Gly	Phe	Ser	Ala	Ser	Arg	Gln	Ile	Pro	Arg	Gly	Gln	Trp	Glu		
	130					135					140						
Arg	Arg	Leu	Gln	Thr	Asp	Ile	Gln	Met	Ala	Lys	Arg	Ala	Leu	Ser	Glu		
145					150					155					160		
Ala	Leu	Ser	Pro	Glu	Lys	Lys	Pro	Ser	Cys	Leu	Ser	Ala	Ser	Asn	Ser		
				165					170					175			
Asn	Pro	Ser	Asp	Ser	Ser	Ser	Ser	Phe	Ser	Ser	Thr	Lys	Pro	Thr	Thr		
			180					185					190				
Thr	Gln	Ser	Val	Cys	Tyr	Ala	Ser	Ser	Ala	Asp	Asn	Ile	Ala	Arg	Met		
		195					200					205					
Leu	Lys	Gly	Trp	Met	Lys	Asn	Pro	Pro	Lys	Ser	Ser	Arg	Thr	Asn	Ser		
	210					215					220						
Ser	Met	Thr	Gln	Asn	Ser	Phe	Asn	Asn	Leu	Ala	Gly	Ala	Asp	Thr	Ala		
225					230					235					240		
Cys	Ser	Ser	Gly	Ala	Lys	Gly	Pro	Leu	Ser	Ser	Ala	Glu	Leu	Ser	Glu		
			245						250					255			
Asn	Asn	Phe	Glu	Ser	Leu	Phe	Asp	Phe	Asp	Gln	Ser	Leu	Glu	Ser	Ser		
			260					265					270				
Asn	Ser	Asp	Gln	Phe	Ser	Gln	Ser	Leu	Ser	Pro	Glu	Ala	Thr	Val	Leu		
		275					280					285					
Gln	Asp	Glu	Ser	Lys	Pro	Asp	Ile	Asn	Ile	Ala	Ala	Glu	Ile	Met	Pro		
	290					295					300						
Phe	Ser	Leu	Leu	Glu	Lys	Trp	Leu	Leu	Asp	Glu	Ala	Gly	Cys	Gln	Glu		
305					310					315					320		
Lys	Leu	Val	Gly	Cys	Cys	Gly	Asp	Ala	Lys	Phe	Phe						
				325					330								

<210> 55

<211> 357
 <212> DNA
 <213> Triticum aestivum

<220>
 <221> unsure
 <222> (259)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (307)
 <223> n is a, c, g or t

<220>
 <221> unsure
 <222> (319)
 <223> n is a, c, g or t

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 tttgcgcaaa gtcgcaacaa caaatgtcac ctttgctaata aactttcttc ttgcttcaac 120
 ctctgtaatc tccatgcagg cctcaaccgc acaggaaaga gctgtcgcct ccggtggggt 180
 aactacctcc accctgggcc taaagcgtgg gcgcatgact ccccatgaaa gaacgcctca 240
 tcctccaact ccatgctcng tggggaaaca agtgggtccaa ggataacacg gaactgccaa 300
 ggcgtancga caatgaatna aagaactact gggagaacac atttgaggaa aaggaag 357

<210> 56
 <211> 54
 <212> PRT
 <213> Triticum aestivum

<220>
 <221> UNSURE
 <222> (21)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (27)..(28)
 <223> Xaa can be any naturally occurring amino acid

<220>
 <221> UNSURE
 <222> (41)
 <223> Xaa can be any naturally occurring amino acid

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 Tyr Leu His Pro Xaa Leu Lys Arg Gly Arg Xaa Xaa Pro Met Lys Glu
 20 25 30
 Arg Leu Ile Leu Gln Leu His Ala Xaa Trp Gly Asn Lys Trp Ser Lys
 35 40 45
 Asp Asn Thr Glu Leu Pro
 50

<210> 57

<211> 1072
 <212> DNA
 <213> Triticum aestivum

<400> 57
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 gaagtatatt gcgcaaagtc gcaacaacaa atgtcacctt tgctaataac tttcttcttg 120
 cttcaacctc tgtaatctcc atgcaggcct caaccgcaca ggaaagagct gtcgcctccg 180
 gtgggttaac tacctccacc ctggcctaaa gcgtggggcg atgactcccc atgaagaacg 240
 cctcatcctc gagctccatg ctcggtgggg aaacagggtg tccaggatag cacggaagct 300
 gccagggcgt accgacaatg agatcaagaa ctactggaga acacatatga ggaagaaagc 360
 acaggagagg aagaggagcg tgtcacccct accatcttca tcctcagtga cataccaatc 420
 cattcagcca cagacgccat cgatcatggg aattggcgag caggaacttc atggtggcag 480
 tagctgcatc acaagcatat tgaagggcac gcctgctgac atggatggat acctcatgga 540
 tcagatatgg atggagattg aggcaccctc tgggggtcaac tttcatgacg ggaaggataa 600
 ttcatacagc agcccctctg gccctctgct gccatcaccg atgtgggatt actacagccc 660
 tgaggcaggc tggaagatgg atgagataaa gatggcccca caagttagct acagtaaagg 720
 aattggcccc agttattgaa gccatatata ttgtatcaga ttactaagtt acttgcaacc 780
 tagcagaagt gaaatgcttt tgttgaaaga accattagca tggatctaaa aaatatattat 840
 atctatctag cattccaagt gtgctcatgt tttatgtatc tactatgtag catctagtgt 900
 gcaagacatg taatgcaagg acacttccac tttgtattca caataatcag ctatctcctg 960
 taagactttt ccaatgcaaa catgattagc aggtgtaata tcaacttaaa tgcttgccaa 1020
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<210> 58
 <211> 198
 <212> PRT
 <213> Triticum aestivum

<400> 58
 Ala Gly Leu Asn Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Val Asn
 1 5 10 15
 Tyr Leu His Pro Gly Leu Lys Arg Gly Arg Met Thr Pro His Glu Glu
 20 25 30
 Arg Leu Ile Leu Glu Leu His Ala Arg Trp Gly Asn Arg Trp Ser Arg
 35 40 45
 Ile Ala Arg Lys Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Tyr
 50 55 60
 Trp Arg Thr His Met Arg Lys Lys Ala Gln Glu Arg Lys Arg Ser Val
 65 70 75 80
 Ser Pro Ser Pro Ser Ser Ser Ser Val Thr Tyr Gln Ser Ile Gln Pro
 85 90 95
 Gln Thr Pro Ser Ile Met Gly Ile Gly Glu Gln Glu Leu His Gly Gly
 100 105 110
 Ser Ser Cys Ile Thr Ser Ile Leu Lys Gly Thr Pro Ala Asp Met Asp
 115 120 125
 Gly Tyr Leu Met Asp Gln Ile Trp Met Glu Ile Glu Ala Pro Ser Gly
 130 135 140
 Val Asn Phe His Asp Gly Lys Asp Asn Ser Tyr Ser Ser Pro Ser Gly
 145 150 155 160
 Pro Leu Leu Pro Ser Pro Met Trp Asp Tyr Tyr Ser Pro Glu Ala Gly

	165		170		175										
Trp	Lys	Met	Asp	Glu	Ile	Lys	Met	Ala	Pro	Gln	Val	Ser	Tyr	Ser	Lys
			180					185					190		

Gly Ile Gly Pro Ser Tyr
195

<210> 59
<211> 521
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (108)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (355)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (361)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (392)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (414)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (431)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (434)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (447)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (456)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (459)

<223> n is a, c, g or t

<400> 59

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cagcatggcg gcggagccgg aggaggaggc ggaccggagg aggaggcngg agctccggcg 120
agggccgtgg acggtggacg aggaccttac gctgatcaac tacatcgcg accacggcga 180
gggcccgtgg aacgcgctgg cgcggggccgc cggcctgagg cgcacgggga agagctgccg 240
gctgcggtgg ctgaactacc tccgccccga cgtgaagcgc ggcaacttca ccgccgacga 300
gcagctcctc atcctcgacc tccactctcg ctgggggcaac cgggtggtcga agatngcgca 360
ncacctcccg ggtcggacgg acaacgaaga tnaaagaact actgggagga ccanggtgca 420
aaaagcacgc naancaactc aactgcnaac tccggnaanc gcaaccttta aaggatgcca 480
ataaggtacc tctggatgcc tcgcctctca acgcatcaac c 521
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<210> 60

<211> 131

<212> PRT

<213> Triticum aestivum

<220>

<221> UNSURE

<222> (27)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (109)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (111)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (122)

<223> Xaa can be any naturally occurring amino acid

<220>

<221> UNSURE

<222> (129)

<223> Xaa can be any naturally occurring amino acid

<400> 60

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Met Asp Val Val Leu Gln Ser Arg Ser Ser Asn Ser Met Ala Ala Glu
  1          5          10          15
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```
Pro Glu Glu Glu Ala Asp Arg Arg Arg Arg Xaa Glu Leu Arg Arg Gly
      20          25          30
```

```
Pro Trp Thr Val Asp Glu Asp Leu Thr Leu Ile Asn Tyr Ile Ala Asp
      35          40          45
```

```
His Gly Glu Gly Arg Trp Asn Ala Leu Ala Arg Ala Ala Gly Leu Arg
      50          55          60
```

```
Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg Pro
      65          70          75          80
```

```
Asp Val Lys Arg Gly Asn Phe Thr Ala Asp Glu Gln Leu Leu Ile Leu
      85          90          95
```

Asp Leu His Ser Arg Trp Gly Asn Arg Trp Ser Lys Xaa Ala Xaa His
100 105 110

Leu Pro Gly Arg Thr Asp Asn Glu Asp Xaa Arg Thr Thr Gly Arg Thr
115 120 125

Xaa Val Gln
130

<210> 61
<211> 464
<212> DNA
<213> Triticum aestivum

<220>
<221> unsure
<222> (435)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (442)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (450)
<223> n is a, c, g or t

<220>
<221> unsure
<222> (457)
<223> n is a, c, g or t

<400> 61
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ggcccctgga cgccggagga ggacctcgtg ctcgtctcct acgtccagga gcacggcccc 120
ggcaactggc gcgccgtccc caccaggacc ggcctgatgc ggtgtagcaa gagctgccgg 180
ctccggtgga ccaactacct gcgcccaggg atcaagcgcg gcaacttcac cgaccaggag 240
gagaagctca tcgtccacct ccaggcgctg ctcggcaaca ggtgggcccgc gatcgctcc 300
tacctccccg agcgcaccga caacgacatc aagaactact ggaacacgca actcaagcgc 360
aagctgcaag cggggggcga cgccgcgggc aaaccggcgg cgcaaaggct gctcctcctc 420
aaagggcaat ggganaggcg gngcagacgn catcaanatg cgcc 464

<210> 62
<211> 122
<212> PRT
<213> Triticum aestivum

<400> 62
Met Gly Arg Pro Pro Cys Cys Asp Lys Glu Gly Val Lys Lys Gly Pro
1 5 10 15

Trp Thr Pro Glu Glu Asp Leu Val Leu Val Ser Tyr Val Gln Glu His
20 25 30

Gly Pro Gly Asn Trp Arg Ala Val Pro Thr Arg Thr Gly Leu Met Arg
35 40 45

Cys Ser Lys Ser Cys Arg Leu Arg Trp Thr Asn Tyr Leu Arg Pro Gly

50	55	60
Ile Lys Arg Gly Asn Phe Thr Asp Gln Glu Glu Lys Leu Ile Val His		
65	70	75 80
Leu Gln Ala Leu Leu Gly Asn Arg Trp Ala Ala Ile Ala Ser Tyr Leu		
	85	90 95
Pro Glu Arg Thr Asp Asn Asp Ile Lys Asn Tyr Trp Asn Thr Gln Leu		
	100	105 110
Lys Arg Lys Leu Gln Ala Gly Gly Asp Ala		
	115	120
<210> 63		
<211> 217		
<212> PRT		
<213> Pisum sativum		
<400> 63		
Met Asp Lys Lys Pro Cys Asn Ser Ser Gln Asp Pro Glu Val Arg Lys		
1	5	10 15
Gly Pro Trp Thr Met Glu Glu Asp Leu Ile Leu Ile Asn Tyr Ile Ala		
	20	25 30
Asn His Gly Glu Gly Val Trp Asn Ser Leu Ala Lys Ala Ala Gly Leu		
	35	40 45
Lys Arg Thr Gly Lys Ser Cys Arg Leu Arg Trp Leu Asn Tyr Leu Arg		
	50	55 60
Pro Asp Val Arg Arg Gly Asn Ile Thr Pro Glu Glu Gln Leu Leu Ile		
65	70	75 80
Met Glu Leu His Ser Lys Trp Gly Asn Arg Trp Ser Lys Ile Ala Lys		
	85	90 95
His Leu Pro Gly Arg Thr Asp Asn Glu Ile Lys Asn Phe Trp Arg Thr		
	100	105 110
Arg Ile Gln Lys His Ile Lys Gln Val Asp Asn Pro Asn Gln Gln Asn		
	115	120 125
Phe Gln Gln Lys Met Ser Leu Glu Ile Asn Asp His His His His His		
	130	135 140
Pro His Gln Pro Ser Ser Ser Gln Val Ser Asn Leu Val Glu Pro Met		
145	150	155 160
Glu Thr Tyr Ser Pro Thr Ser Tyr Gln Gly Thr Leu Glu Pro Phe Pro		
	165	170 175
Thr Gln Phe Pro Thr Ile Asn Asn Asp His His Gln Asn Ser Asn Cys		
	180	185 190
Cys Ala Asn Asp Asn Asn Asn Asn Tyr Trp Ser Met Glu Asp Ile		
	195	200 205
Trp Ser Met Gln Leu Leu Asn Gly Asp		
	210	215